

AMENDMENTS TO THE CLAIMS

1. – 13. (CANCELLED)

14. (NEW) A screw compressor for compressing and separating liquid from matter that passes through the screw compressor, which screw compressor comprises:

a screw having an outer threading, the pitch of which decreases in the longitudinal direction of the screw;

a casing that encases the screw, which casing has an inner side that faces the thread on the screw so that matter can be fed forward through the screw compressor between the screw and the inner side of the casing in a direction from an inlet end of the screw compressor where the pitch of the screw thread is greater, to an outlet end of the screw compressor where the pitch of the screw thread is smaller;

appliances on the inner side of the casing, that are arranged to prevent matter that passes through the screw compressor from rotating along with the screw but instead to pass essentially straight ahead in the longitudinal direction of the screw;

a conduit for liquid supply arranged inside the screw and provided with a mouth on the outside of the screw so that liquid can be fed through the screw and be supplied to matter that passes through the screw compressor, the mouth being arranged on the outer surface of the screw in order thereby to rotate along with the screw so that liquid that is supplied via the conduit is uniformly supplied to the matter that passes the screw compressor;

characterized in that the screw compressor is arranged to press the liquid that is supplied to the matter via the mouth of the conduit axially backwards in the longitudinal direction of the screw and towards the inlet end of the screw compressor.

15. (NEW) Screw compressor according to claim 14, characterized in that the degree of compression in the screw compressor is constant from the inlet end to the outlet end.

16. (NEW) Screw compressor according to claim 14, characterized in that the mouth is arranged closer to the outlet end of the screw compressor than to its inlet end, so that liquid can be supplied to the matter that passes through the screw compressor when the matter has been exposed to compression over more than half the length of the screw compressor.

17. (NEW) Screw compressor according to claim 16, characterized in that the mouth is arranged close to the outlet end of the screw compressor, so that the distance from the mouth to the end of the thread is at most 20% of the of the length of the screw.

18. (NEW) Screw compressor according to claim 16, characterized in that the mouth is arranged close to the outlet end of the screw compressor, so that the distance from the mouth to the end of the thread is at most 10% of the length of the screw.

19. (NEW) Screw compressor according to claim 14, characterized in that the casing of the screw compressor is, at least over a part of its length, a water-tight casing that is at least essentially impervious to liquid.

20. (NEW) Screw compressor according to claim 19, wherein the casing of the screw compressor is, at least over a part of its length, a water-tight casing that is impervious to liquid.

21. (NEW) Screw compressor according to claim 14, characterized in that the screw and the inner side of the casing are conically tapered towards the outlet end of the screw compressor.

22. (NEW) A method for compressing and washing matter in a screw compressor, which method comprises the following steps:

a. providing a screw compressor comprising a screw having an outer threading, the pitch of which decreases in the longitudinal direction of the screw, and a casing that encases

the screw, which casing has an inner side that faces the thread on the screw so that matter can be fed forward through the screw compressor between the screw and the inner side of the casing in a direction from an inlet end of the screw compressor, where the pitch of the screw thread is greater, to an outlet end of the screw compressor, where the pitch of the screw thread is smaller;

- b. supplying of wet matter to the inlet end of the screw compressor;
- c. operating the screw so that the wet matter that is supplied to the inlet end of the screw compressor is fed forward through the screw compressor towards the outlet end of the screw compressor;
- d. directing the wet matter so that the wet matter is prevented from rotating along with the screw and instead moves essentially straight through the screw compressor;
- e. separating liquid from the wet matter by the compressing in the screw compressor, until the wet matter has reached a dry content of at least 35%;
- f. supplying a washing agent to the dewatered matter, whereby the washing agent is supplied to the dewatered matter via the rotating screw so that the washing agent is uniformly supplied to the dewatered matter;
- g. additional compressing of the dewatered matter, after the supplying of the washing agent, characterized in that
- h. the washing agent that is supplied to the wet matter is pressed axially backwards through the screw compressor towards the inlet end of the screw compressor.

23. (NEW) The method according to claim 22, characterized in that the wet matter is compressed by a degree of compression that is constant from the inlet end of the screw compressor to its outlet end.

24. (NEW) The method according to claim 22, characterized in that the wet matter is dewatered until it reaches a dry content of at least 40% before the washing agent is supplied to it.

25. (NEW) The method according to claim 24, characterized in that the wet matter is dewatered until it reaches a dry content of at least 45% before the washing agent is supplied to it.

26. (NEW) The method according to claim 22, characterized in that the washing agent is supplied during undiminished compression of the wet matter so that the washing agent is exposed to a back pressure.

27. (NEW) The method according to claim 26, characterized in that the degree of compression is constant all the way from the inlet end of the screw compressor to its outlet end.